Student Empowerment Through Internet Usage

A Ethnographic Action Research Project in India

Purushothaman, Aparna

Published in:
EDULEARN11 Proceedings

Publication date:
2011

Document Version
Early version, also known as pre-print

STUDENT EMPOWERMENT THROUGH INTERNET USAGE A ETHNOGRAPHIC ACTION RESEARCH PROJECT IN INDIA

Aparna Purushothaman

Aalborg University, Denmark
aparna@hum.aau.dk

Abstract

Information and Communication Technology (ICT) has been widely recognized as a tool for human development (UNDP 2001) [1]. The rate at which ICT technologies are growing is changing the way knowledge is developed, acquired and delivered. (Tongia, et al. 2005) [2] Internet is one of the Information and Communication Technologies that brought massive change in the ways people communicate and how information is exchanged across the globe. Educational sector has been strongly influenced by the emergence of Internet Technologies since the growth of Internet has changed how knowledge is developed, acquired and delivered. (Sookram 2008) [3]. Digital literacy is a prerequisite for students of this generation. Studies say that woman always lag behind men in adapting to Internet technologies in India (Icube, 2009) [4]. This paper focuses on how can the woman learners who cannot take advantage of Internet technologies that transform learning be empowered through Internet usage? The paper center on an Action Research Project conducted in a University in Southern India to empower the female students through Internet usage. The study was done to find out the problems the woman students faced in gaining access and using Internet and how they can be empowered through Internet usage. Future workshop was conducted to find out the problems and a research design was formulated in consultation with the participants. Action research model for reflective Internet searching developed by Edwards and Bruce (2002) [5] was deployed in the study where students did the Internet searching based on the action research cycle of planning, acting, recording and reflecting. The paper will explore the various cultural issues and explicate how the social context plays a major role on in the use of Internet even if there is sufficient access. These issues will be addressed from an empowerment perspective. The paper ends by recommending the methods to be adopted for more acceptance of Internet use by women students in developing countries

Keywords: Action Research, ICT, Empowerment, Gender, Internet.

1 INTRODUCTION

Access to ICT remains a major barrier for women from developing countries. Majority of women in developing countries are not getting advantage of the information economy. Women, especially those living in rural areas, are still excluded from accessing the Internet or do not have the skills to use it in a profitable way (UN 2005) [6]There are a lot of sociocultural factors which restricts the use of ICT by women like illiteracy, technophobia, perception of it being a masculine technology, lack of competency in the English language as most of the content available are in English, time constraints imposed by role responsibilities, lack of control over family income, low priority for others education than self, distance from home , restrictions on mobility etc. What has to be looked into is the facts that if access is the only accountable reason which come in the way of women and ICT. How they use the technology even when the access and availability is there is an explored area. Do they have the digital literacy to use ICT efficiently and effectively? Getting access does not solve the problem of women's appropriate use of ICT. Mostly in developing countries women lack the basic technical knowhow like how to use the computer and getting connected to the Internet.

1.1 ICT & The Social Context

In this research, social context played a major role in keeping the girls away from using the Internet. The girls sited various reasons for not using Internet like slow Internet Speed, Cost, Ignorance, Fear of using, time restrictions, gendered role restrictions, restricted access and many said Internet should be available on a wide scale to them in the from primary schools and colleges blaming Educational System. They also emphasized on adequate training in ICT for primary teachers. What was surprising

was that the University had an Internet café and there were two public Internet cafes that were within two hundred meters from where the department was. Still the usage level by the students was very low. This makes it clear that just the availability of technology does not necessarily indicate that women are using it. *"Technological environments are social environments shaped around the use of any form of technology. They are place-based and their structuring is shaped by local histories, geographical conditions, and everyday cultural practices within which technology is put to use" (Gajjala* 2002) [7]. Gajalas analysis of the experience of the male and female students in using the Internet in classrooms in Canada points out that it's not an enabling environment for the female students which reinstate the fact just access to ICT is not enough for the women's appropriation of technology. Montgomery (2002) (as quoted in Huyer& Sikoska 2003) [8] recommends that technology projects should be seen as a component of the social context in which it is placed. He indicates that social divisions that exist with in any society like gender, class, age, ethnicity, and race will be affected differently by any technology introduced. They will differ in their skills to use the technology and will value the technology differently. This type of thinking helps us to understand how gender perceptions influence technology designs, and the environments strongly influence the way women and men access and use technology.

2 ETHNOGRAPHIC ACTION RESEARCH PROJECT

The study was done mainly with the aim of finding out if women can be empowered through Internet usage. There is a gap in qualitative research, which gives facts on women's perceptions, attitudes, and problem that they face in using ICT. Huyer and Sikoska (2003) [8] calls for more qualitative research than quantitative gender research that gives primarily the number of women using ICT compared to men. The study was done at the, Department of women's studies, University of Calicut. The Department was established in 2005 with a motto to act as a catalyst for the empowerment of women in the Malabar region. University of Calicut, situated in the southern state of Kerala in India is the second university to be set up in the state being established in 1968. University of Calicut has emerged as the largest University in the state with 31 departments of postgraduate studies and research and 304 affiliated colleges serving 275000 students every year. The focus group was thirteen masters' students of the Women's studies department. Selection of the field was based on the familiarity with the University and the people, as it would give an edge in getting the data. There is no reason to select a site that's is difficult to enter when an equally good sites are available which are easy to enter and which promises to provide an easy access to data (Bernard, 1995) [9]

3 METHODOLOGY

The research methods adopted by a researcher are strongly influenced by the context of the research, the type of people researched and to a large extent by the socio-cultural factors. Research is all about knowledge construction and how to measure the knowledge created is often a difficult task. As Somekh (2001) [10] describes, based on researchers understanding of knowledge and how knowledge is created influences the choice of research methods to identify and describe the way knowledge is constructed. The methods a researcher uses to identify and describe any element of human activity are dependent upon epistemological and cultural-political factors (Somekh, 2001) [10] The main reason for using an ethnographic action research approach was that thnographic approach ensures that research is focused on how problems and opportunities are defined by people locally and allows research methods and the project itself to be creatively adapted to the local situation. Tacchi et.al, 2003) [11] The ethnographic approach guarantees that the research is carried on within a wider and deeper understanding of local settings and needs. It was very important to know the social and cultural factor that influences the female students from using the Internet. Action Research will help in reflecting on the change that happens with the students when they start using the Internet. Since the situation was to enable the students with using the Internet with no prior knowledge the project demanded great amount of flexibility. Since Action research is conducted to understand and change the situations it provided the flexibility required by its action orientation to respond to the evolving phases of the research situation (Dick, 2007). Thus ethnography was used to guide the research process and action research to link the research back to the processes and actions in the research project. (Tacchi et al. 2003)[11]

4 DATA COLLECTION

Multiple methods were used to collect the data so as to strengthen the validity of the findings like Future Workshops, Action Research Workshops, Semi-structured Interviews, Participant observation, Video, Audio, Photographs, and Participant produced drawings and Field Notes

4.1 Future Workshop

Future Workshop was conducted with the aim of finding out from the students themselves about the problems that they face in using the Internet and to make them generate a vision about the preferred situations and to bring out ways of achieving those preferred situations. Making students to use imaginative methods to bring out the ideas in them by thinking out of the box very well suited the emancipating character of the future workshop. Vidal (2006) [13] states that basically there are two main approaches to make changes to a real situation of a system. First is to criticize the actual situation, dream about the desired future situation and find the mode of moving from the actual to the desired one. And the second approach being to fantasize about the desired situation and then evaluate the current situation and finding ways to change the current situation to the preferred one. He states that the Future Workshop emerges from the first category of approaches that stress on *critique, learning, teamwork, democracy, and empowerment*. Future workshop as stated by Apel (2004) [14]is a technique to reflect on a common problematic situation, to generate visions about the future and to discuss how these visions can be realized. Jungk who is considered to be father of future workshop along with Müllert (1987) defines that a typical future workshop consists of five phases Jungk/Müllert (1987) as quoted in Vidal (2006) [13]

4.1.1 The Preparation phase

In this phase participants are introduced to the rules and the scheduled course of activities. The rooms and facilities for the workshop have to be decided. Started with Preparation Phase by deciding on the venue for the workshop. It was decided that venue would be Women's studies department at University of Calicut. Spent some time with the students informally since it was the first meeting with them. Introduction to research was given and explained what were the expectations from the students. Explained to them about the next phases and how the workshop will be conducted.

4.1.2 The critique phase:

Usually this phase is considered to be the beginning of the future workshop (Apel, 2004) [14]. What happens in Critique phase is the thorough investigation of the problem in hand. The preferred creative technique applied is brainstorming. Based on the results from the brainstorming the problems are clustered or grouped accordingly. Vidal (2006) describes the first step as the convergent process and the second step being the divergent process. Students were given two reflective questions to think about based on which they did a visual brainstorming

- What are the barriers for empowerment through Internet usage?
- What factors restrict you from using Internet for your educational activities?

Students did a visual brainstorming and came out with problems, which were displayed in a chart. Mind Mapping was done to cluster and bring out themes from the problems identified. Themes identified were Speed, Cost, Ignorance, Fear, Time, Gender, Restricted Access and the Educational System Since its not possible to work on all the topics generated from the brainstorming there need to be some prioritizing of ideas (Vidal, 2006) [13] Major themes were identified. The selection was made based on the most number of problems that were listed and it was Speed, Cost, Ignorance and Fear.

4.1.3 The Fantasy Phase

Here the participants try to work a utopia, to draw an exaggerated picture of the future. In the fantasy phase students were asked to come out with possibilities for the problems identified irrespective of their practicality. For this students were paired to work out on possibilities. After that students were divided into three groups to do a pictorial representation of the exaggerated possibilities. Drawing was used as a method in the Fantasy phase as it was a great technique to make the students fantasize their thoughts without any limitation. Students were very imaginative and brought out excellent ideas. First group came out with a picture of computer and each component was represented in terms of exaggerated possibilities, which was very brilliant. Mouse was visualized as compulsory IT training stating from childhood. Represented CPU mainly for the measures to be taken by the Government to enable better Internet usage like Government should provide free IT information to both men and

women, PC for all students; Government should provide computers with net connection to all families. They showed Information coming as from the power connection. Keyboard was mainly represented for women and girl issues like to avoid fear by more information, individual keys for information and more computer centers.

The second group came out with a Drawing of a tree by giving meaning to the branches and leaves. Representation was given to the supporting factors that make a tree grow like sun, soil and showers. Trees represented humanities. The soil on which the tree was growing represented resources, education, opportunities and technology. Sun was depicted as kind of an umbrella representing "Gender Empowerment". Showers represented technophobia being erased by some unknown power, educational institutions providing e-notes and web pages for all courses, new technologies that needs just our thoughts- no clicking typing and loading, emergence of Hi-tech campuses, one morning all the computer knowledge comes to their minds, pocket size PC's at affordable rates for easy access.

The third group representation was in the form of a person thinking. They visualized their possibilities through a persons thought. Their fantasies were awareness among parents among net usage, primary teachers should be given special IT training, free computer education for all students, techno based class sessions, good security in Internet café, communication between teachers and students should be done by emailing and government should provide free lap top and net connection to all students

4.1.4 The implementation Phase

In this phase ideas have to be looked into in terms of their feasibility and the ones that are more practical has to be adopted. Ideas need to be weighed in terms of their implementation possibilities. Usually an action plan is made stating what, where, when and how? (Vidal, 2006) [13] The focus of the future workshops was to find out the problems that made the students away from Internet and how they can solve the problems. The most feasible ones were how to reduce the Fear and Ignorance and the best solution was to get the students use Internet through some training. It was decided that the students would be given some Internet training before each action research workshops so that in the action research workshops they will do the Internet search and reflect on how they did the search and discuss on the problems faced and more effective ways of using the Internet

4.1.5 The Follow-up Phase

In the Follow-up phase the action plan is monitored and necessary changes are made if needed. There should be an evaluation of the various processes and activities that were carried out. In this phase there were some discussions on how to conduct the training and the time schedules for the training. Students gave the feedback that they need some web searching skills to search their seminar topics. Each of them gave a feedback on various activities; they were very much impressed with the drawing technique used. They felt it was a very novel idea to them and that they felt more at ease in expressing their thoughts.

4.2 Action Research Workshops

There were four Action Research workshops conducted and each was preceded by a schedule of Internet Training designed on Blooms Digital Taxonomy.

Bloom's Taxonomy originated in 1950's when Dr Benjamin S Bloom developed taxonomy of cognitive domains called Blooms Taxonomy. His taxonomy of learning objectives was much useful for the design and assessment of educational learning in an academic context. Blooms original taxonomy and the revised taxonomy by (Anderson & Krathwohl, 2001) as quoted in Churches 2009) [15] which are focused within the cognitive domain does not take into account the new behaviors, actions and learning opportunities emerging with the technology advancements and the widespread use of technology by this generation of students. Blooms Digital taxonomy developed by (Churches 2009) [15] focuses on the actions and learning behaviors in the new digital age where the information literate is the one who can Access, evaluate and use digital information efficiently. The Taxonomy is not about the tools and technologies instead its focuses on how to use these tools and technologies to achieve, recall, understanding, application, analysis, evaluation and creativity. In the revised Digital Taxonomy Churches adds new digital verbs to the recognized and existing verbs.

4.2.1 First Schedule of Internet Training

The first schedule of Internet training was given to the students based on Bloom's Digital Taxonomy of learning domains of "Remembering" Each domain is explained in brief as to what it means in the revised model of Blooms Taxonomy (Anderson & Krathwohl, 2001, quoted in in Churches 2009) and what it means in the Digital Taxonomy (Churches 2009) [15].

Remembering – Remembering is to recall or recognize specific information. Key to this element of taxonomy in the digital context is retrieval of material. Remembering involves Listing, Describing, Identifying, Retrieving, Naming, Recitation, and Locating/Finding. The digital verbs associated with remembering are Bullet pointing, Highlighting, Bookmarking, Social networking, Social bookmarking, Favouriting/local bookmarking, Searching and Googling. Possible activities selected for learning listed in the Digital Taxonomy were Google Search, Google Books, Google Scholar, Creating Email ID's & Social Networking ID's and Delicious. In the first schedule many students were not comfortable with using the Internet. There were some who couldn't even control the mouse. But the best part was they were very much motivated to learn and tried their best.

4.2.2 Action Research Workshop – 1

The first Action Research workshop was based on the Internet training based on Bloom's Digital Taxonomy of learning domains of "Remembering". In this workshop students did some basic searches in the Internet. Some questions were given to them related to women's topics to make them interested and they did the search in pairs. Could observe that some of them didn't get much result but they had shown lot of improvement before they started the training. On the other hand there were some students who showed tremendous improvement giving a surprise element. In the action research project students executed the Internet searching using the action research model for reflective Internet searching (Edwards, Bruce, 2002) [5] It allowed the students to learn how to search Internet using the action research cycle of planning, acting, recording and reflecting. Figure 1 show's the model that aided the students to search the Internet and reflect on the process of Internet search techniques and the results and learn from each other in the group.

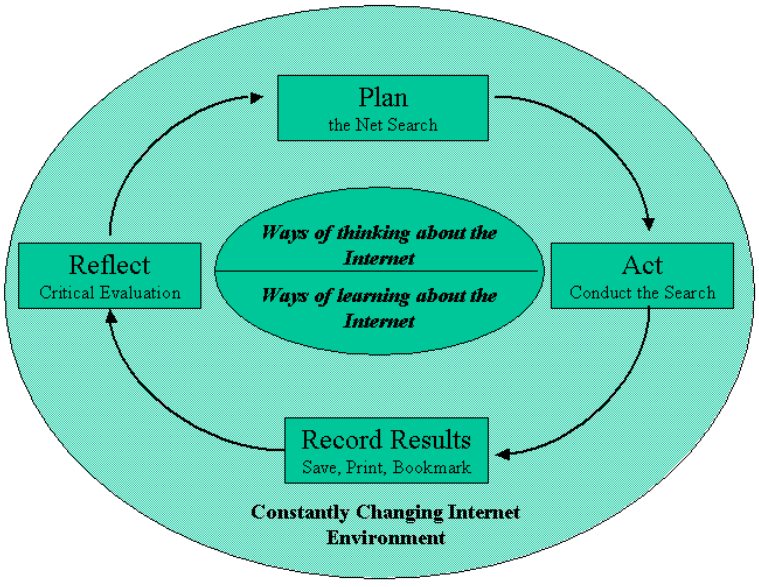

Figure 1 Action Research Model for Reflective Internet Searching (Edwards, Bruce, 2002) [5]

Started the discussions but since most of the students were little shy and conservative, they weren't much vocal. Had to persuade and motivate them to lot to speak up.

4.2.3 Second Schedule of Internet Training

The second schedule was based on learning domains of "Understanding & Applying" Understanding comprises Interpreting, Summarizing, Inferring, Paraphrasing, Classifying, Comparing, Explaining and Exemplifying. Digital verbs associated with Understanding are Advanced searches, Boolean searches

and Blog journaling, Twittering, Categorizing and Tagging, Commenting, Annotating, and Subscribing Applying implies Implementing, carrying out, using, executing, Implementing, showing and exhibiting. In the digital world Applying denotes Running, loading, playing, operating, hacking, uploading, sharing and editing. Possible activities selected for learning were Word Processing, Google Docs, PowerPoint and Boolean Search.

4.2.4 Action Research Workshop – 2

"Understanding & Applying" were the learning domains based on which the second Action Research workshop was conducted. In this workshop the students created a shared Google document based on the questions given for Google search. Another activity was to create a power point presentation on the "Millennium Development Goals". Students were paired to do the activities. After completing the activities they discussed about the difficulties in getting the correct information and problems faced in creating a shared document. The discussions were far better compared to the first workshop and they showed that now then have a hand over using the Internet. They presented the power point presentations. Some had difficulties in getting the correct formatting in the PowerPoint. Took a feedback from the class, how they feel and what all can be improved. Many said they could get a feel of the improvement happening in them. They wanted to learn more about PowerPoint since they would like to use it when they did their seminar topics instead of reading out from the paper.

4.2.5 Third Schedule of Internet Training

Learning domains of "Analyzing and Evaluating" formed the basis for the third schedule of Internet training. Analyzing means Comparing, Organizing, Deconstructing, Attributing, Outlining, Finding, Structuring and Integrating. Digital verbs for Analyzing include Mashing, Linking, Reverse-engineering, Cracking and Mind-mapping. Evaluating means Checking, Hypothesizing, Critiquing, Experimenting, Judging, Testing, Detecting and Monitoring. Evaluating in the digital domain implies (Blogs/vlog) commenting, Reviewing, Posting, Moderating, Collaborating, Networking, Reflecting, (Alpha & beta) testing, Validating. Possible activities selected for learning were Google Maps, Mindmeister, Google forms and Google calendar.

4.2.6 Action Research Workshop – 3

Third action research workshop was based on the Internet training given based on the learning domains of "Analyzing and Evaluating". Students created mind maps using mind-mapping software. Activity selected was to make the students create a mind map of any concept that they thought of making. They did an Internet acronym quiz where they did the web search for finding out what the acronym represented and filled in the answers by Google forms. In this workshop instead of discussion used the technique of drawing. Some of the students were shy and not opening up much in the discussions. Drawings was an apt medium especially for those students who are not naturally talkative to relate to other students (Schratz and Walker, 1995) [16]Thought it was a good idea to make them draw as through drawing and presentation of what they meant by the drawing, they could explain the learning that happened and how they perceived themselves in the new experience. Asked the students to write down the problems, which they encountered, in using any of the five tools they have learnt till now. Distributed some colored chit papers for the same. Gave them some time to think since it won't be that easy to recollect very fast and to write. After they wrote down the problems students were divided into groups and asked them to do a pictorial presentation of solutions to these problems

4.2.7 Fourth Schedule of Internet Training

Creating was the learning domain around which the fourth schedule of Internet training revolved around. Creating implies Designing, Constructing, Planning, Inventing, Devising and Making. Creating in the digital environment means Programming, Filming, Animating, Blogging, Video blogging, Mixing, Remixing, Wiki-ing, Publishing, Video casting, Podcasting, Directing/producing, Building or compiling mash-ups. Possible Activities for learning were Twitter and Blogging

4.2.8 Action Research Workshop 4

The fourth Action research workshop was based on the learning domain of "Creating" in Blooms digital taxonomy. They created blogs and were introduced to the micro-blogging site twitter. Most of them had heard about blogs but not much about twitter. They discussed here about what they did and by the end of workshop four they were discussing with lot of confidence and zeal.

5 FINDINGS

5.1 Empowerment Assessment

There is no easy mechanism to measure empowerment. The Word empower as defined by Oxford Dictionary is to “give someone the authority or power to do something” or to “make someone” stronger and more confident, especially in controlling their life and claiming their rights. In this research context it was about making them stronger and confident and to build their self esteem by using the technology. Data from the future workshop was supplemented with some evaluation of the questionnaires to decide on what would empowerment mean in this particular research context. From the questionnaire analysis it was clear that apart from three all other girls didn’t have much knowledge in using the Internet.

Figure 2 shows a pictorial representation of the empowerment measure developed for this research.

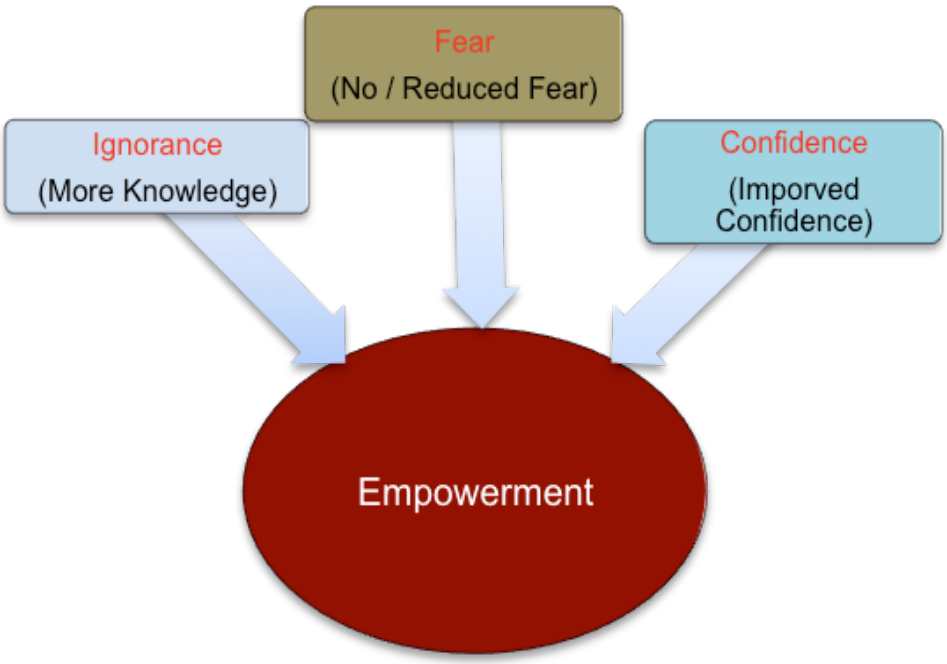

Figure 2 Empowerment Measure

It was certain that empowerment for them can be achieved through Internet usage by reduced fear, improved confidence level and reduced ignorance in terms of using Internet. To make some evaluation on how they have gained knowledge made them do an objective test based on the tools that they have learnt. Out of eight who took the test apart from two other six performed really well. Asked them to rate themselves how they feel empowered based on the parameters of Fear, Confidence and Ignorance. Five of them said they have no fear of using the Internet, and three of them said fear has come down after the training and workshops. All the eight told that their confidence level has improved. And speaking of Ignorance all the eight of them said ignorance has reduced a lot.

5.1.1 Measuring the Knowledge Level

To have a deep understanding of their knowledge levels on the tools learnt before and after the workshops asked them to fill up a questionnaire measuring their usage and knowledge level before and after workshops.

Table 1 below represents the number of students who have used and had knowledge in the respective tool before the Action Research Workshops

Table 1 Usage & Knowledge Level Before The Workshops

Tools	**Usage & Knowledge Level Before The Workshops**			
	Haven't heard before	Have heard, but didn't know how to use	Have used	Was an expert
Google Search		4	4	
Boolean Search	6	1	1	
Google Books	4	3	1	
Google Scholar	5	3		
Email ID		5	2	1
Delicious	7	1		
MS Word		3	3	2
Google Docs	6	2		
MS PowerPoint		2	5	1
Google Maps	6	1	1	
Mindmeister	8			
Google Forms	8			
Google calendar	6	2		
Twitter	4	4		
Blogs	2	6		

Table 2 in the following page gives a picture of how the students have improved with the workshops. It was not expected that they would become an experts in searching but that they do improve and gain confidence in using the Internet.

Table 2 Usage & Knowledge Level After The Workshops

Tools	Usage & Knowledge Level After The Workshops		
	No change	Some Improvement	Lot of Improvement
Google Search		2	6
Boolean Search		6	2
Google Books		7	1
Google Scholar		4	4
Email ID		2	6
Delicious	1	4	3
MS Word	1	1	6
Google Docs		4	4
MS PowerPoint		2	6
Google Maps		2	6
Mindmeister		4	4
Google Forms		3	5
Google calendar		7	1
Twitter		1	7
Blogs		2	6

6 CONCLUSION

This research clearly reinstates the fact that just the availability doesn't bring the women closer to ICT and make their access easy. They should have the knowhow and sufficient confidence to use the accessible technology. Women will use technology only when they are convinced that's its worth taking the effort. Before putting the infrastructure, an understanding of how the women are going to use the technology should be made. They should be educated on the relevance and how they will benefit from the technology. And awareness workshops are the first step for bringing them closer to technologies. In this research the focus group was master students who are supposed to be the digital natives of the new millennium as they are born between 1988 and 1990 and is supposed to have sufficient awareness and expertise on information and communication technologies. This research throws light that digital native is not an universal concept and students who come to the university does not necessarily have to be experts in using the technology. Any project that has an empowerment objective through technology use has to first understand the social and political scenario in depth. There should be more qualitative research done which shows how women's perceptions and attitudes differ in different cultures when they interact with and use technology.

REFERENCES

[1] UNDP Annual Report (2001) retrieved from http://www.undp.org/annualreports/2001/index.html

[2] Tongia, R., Subrahmanian, E., Arunachalam, V. (2005) Information and Communications Technology for Sustainable Development: Defining a Global Research Agenda, September 01, 2005, Allied Publishers, Bangalore. Retrieved from http://www.nist.gov/manuscript-publication-search.cfm?pub_id=822313

[3] Sookram, C. (2008) Information Communication Technologies: Utilizing the Internet in the Development of International Studies Curriculum and 'Global' Classrooms" Paper prepared for Panel # FC23: Learning to Educate: Curricular and Program Innovations, 2008 ISA Annual Convention. Retrieved from http://www.allacademic.com/meta/p252989_index.html

[4] Icube (2009-2010) Report published by Internet and Mobile Association of India. Retrieved from www.iamai.in/Upload/Research/icube_new_curve_lowres_39.pdf

[5] Edwards, S., and Bruce, C. (2002) Reflective Internet Searching: An Action Research Model, The Learning Organisation, 9(3/4), pp180-188

[6] UN report (2005) The World's Women 2005: Progress in Statistics, Retrieved from http://unstats.un.org/unsd/demographic/products/indwm/wwpub.htm

[7] Gajjala, R. (2002) Cyber feminist technological practices: Exploring possibilities for a women-centered design of technological environments, UN /INSTRAW Virtual seminar series on Gender and ICTs, July 2002

[8] Huyer, S. & Sikoska, T. (2003) Overcoming the Digital Gender Divide. Understanding ICTs and their potential for the empowerment of women. INSTRAW Research Paper Series no. 1. http://www.un-instraw.org/pdf/oth-Synthesis_Paper.pdf

[9] Bernard, H. Russell (1995) Research Methods in Anthropology. 2nd edition. Newbury Park, CA: Sage.

[10] Somekh, B. (2001) Methodological Issues in Identifying and Describing the Way Knowledge is Constructed With and Without Information and Communications Technology, Journal of Information Technology for Teacher Education, Vol. 10, Nos 1&2, 2001

[11] Tacchi, J., D. Slater, and G. Hearn. (2003). Ethnographic action research handbook, Retrieved from http://portal.unesco.org/ci/en/files/13276/10672478597Ethnographic_Action_Research.pdf/Ethnographic%2BAction%2BResearch.pdf.

[12] Dick, B. (2007) Action Research as an enhancement of natural problem solving, International Journal of Action Research, 2007, 3, ½

[13] Vidal, R. (2006) The Future Workshop: Democratic problem solving, Journal: Economic Analysis Working Papers, 2006 Vol: 5 Issue: 04

[14] Apel, H. (2004) Paper Presented on the International Expert Meeting on Theory and Practice of Peace Education, Feldafing (Munich) February 9-11, 2004, Retrieved from http://www.die-bonn.de/esprid/dokumente/doc-2004/apel04_02.pdf

[15] Churches, A. (2009) http://edorigami.wikispaces.com/Bloom%27s+Digital+Taxonomy

[16] Schratz, M., and Walker, R. (1995) Research as social change, new opportunities for Qualitative research. London: Routledge

[17] Oxford Online Dictionary, http://www.oxforddictionaries.com/definition/empower?view=uk